What is claimed is:

1. An automatic frequency control (AFC) system applied in a mobile station of a wireless cellular system for automatically controlling a local frequency signal (f_L) to be substantially synchronized with an input signal (S_I) which is a first received signal (S_H) from a first base station and being capable of shifting the frequency of the local frequency signal (f_L) to be close to that of a second received signal (S_{new}) from a second base station when the input signal (S_I) is changed from the first received signal (S_H) to the second received signal (S_{new}), the system comprising:

an automatic frequency controller for receiving the input signal (S_I) and generating the local frequency signal (f_L);

a memory unit for storing a plurality of AFC parameter sets, each AFC parameter set being corresponding to a base station within the wireless cellular system; and

a control module;

wherein when the input signal (S_I) is changed from the first received signal (S_H) to the second received signal (S_{new}), the control module fetches the AFC parameter set, which corresponds to the second base station, from the memory unit and applies the fetched AFC parameter set, which corresponds to the second base station, to the automatic frequency controller to shift the frequency of the local frequency signal (f_L).

2. The automatic frequency control system of claim 1, wherein the automatic frequency controller comprises:

a frequency detection module for comparing the input signal (S_I) with the local frequency signal (f_L), and outputting a frequency error (f_E) between the input signal (S_I) and the local frequency signal (f_L);

a processing module for receiving the frequency error (f_E) and generating a frequency control signal (V_t);

a frequency generator for generating the local frequency signal (f_L) according to the frequency control signal (V_t).

3. The automatic frequency control system of claim 2, wherein the control module further extracts the AFC parameter set from the automatic frequency controller and stores the AFC parameter set to the memory unit.

4. The automatic frequency control system of claim 3, wherein the AFC parameter set extracted by the control module or stored in the memory unit comprises a first AFC parameter which represents a value of the frequency control signal.

5. The automatic frequency control system of claim 3, wherein the AFC parameter set further comprises a second AFC parameter which represents the time at which the AFC parameter set was extracted.

6. An auxiliary system of an automatic frequency controller in a mobile station of a wireless cellular system, the automatic frequency controller being used for receiving an input signal (S_I) which is a first received signal (S_H) from a first base station and generating a local frequency signal (f_L) which is substantially synchronized with the input signal (S_I), the auxiliary system being capable of shifting the frequency of the local frequency signal (f_L) to be close to that of a second received signal (S_{new}) from a second base station when the input signal (S_I) is changed from the first received signal (S_H) to the second received signal (S_{new}), the auxiliary system comprising:

a memory unit for storing a plurality of AFC parameter sets, each AFC parameter set being corresponding to a base station within the wireless cellular system; and

a control module;

wherein when the input signal (S_I) is changed from the first received signal (S_H) to the second received signal (S_{new}), the control module fetches the AFC parameter set, which corresponds to the second base station, from the memory unit and applies the fetched AFC parameter set, which corresponds to the second base station, to the automatic frequency controller to shift the frequency of the local frequency signal (f_L).

7. The auxiliary system of claim 6, wherein the automatic frequency controller comprises:

a frequency detection module for comparing the input signal (S_I) with the local

frequency signal (f_L), outputting a frequency error (f_E) between the input signal (S_I) and the local frequency signal (f_L);

a processing module for receiving the frequency error (f_E) and generating a frequency control signal (V_t);

a frequency generator for generating the local frequency signal (f_L) according to the frequency control signal (V_t).

8. The automatic frequency control system of claim 7, wherein the control module further extracts the AFC parameter set from the automatic frequency controller and stores the AFC parameter set to the memory unit.

9. The auxiliary system of claim 8, wherein the AFC parameter set extracted by the control module or stored in the memory unit comprises a first AFC parameter which represents a value of the frequency control signal.

10. The auxiliary system of claim 8, wherein the AFC parameter set further comprises a second AFC parameter which represents the time at which the AFC parameter set been extracted.

11. An automatic frequency control (AFC) method applied in a mobile station of a wireless cellular system for automatically controlling a local frequency signal (f_L) to be substantially synchronized with an input signal (S_I) which is a first received signal (S_H) from a first base station and being capable of shifting the frequency of the local frequency signal (f_L) to be close to that of a second received signal (S_{new}) from a second base station when the input signal (S_I) is changed from the first received signal (S_H) to the second received signal (S_{new}), the method comprising:

(a) receiving the input signal (S_I) and generating the local frequency signal (f_L);

(b) storing a plurality of AFC parameter sets in a memory unit, each AFC parameter set being corresponding to a base station within the wireless cellular system;

(c) when the input signal (S_I) is changed from the first received signal (S_H) to the second received signal (S_{new}), fetching the AFC parameter set, which corresponds to the second base station, from the memory unit and applying the fetched AFC parameter set, which corresponds to the second base station, to the automatic

frequency controller to shift the frequency of the local frequency signal (f_L).

12. The automatic frequency control method of claim 11, wherein the step (a) further comprises:

comparing the input signal (S_I) with the local frequency signal (f_L), outputting a frequency error (f_E) between the input signal (S_I) and the local frequency signal (f_L);

receiving the frequency error (f_E) and generating a frequency control signal (V_I) according to the frequency error (f_E) ;and

generating the local frequency signal (f_L) according to the frequency control signal (V_I).

13. The automatic frequency control method of claim 12, wherein the the AFC parameter set are extracted from the automatic frequency controller and stored into the memory unit.

14. The automatic frequency control method of claim 13, wherein the AFC parameter set extracted by the control module or stored in the memory unit comprises a first AFC parameter which represents a value of the frequency control signal.

15. The automatic frequency control method of claim 13, wherein the AFC parameter set further comprises a second AFC parameter which represents the time at which the AFC parameter been extracted.

16. An auxiliary automatic frequency control method applied in an automatic frequency controller (AFC) of a mobile station of a wireless cellular system, the automatic frequency controller being used for receiving an input signal (S_I) which is a first received signal (S_H) from a first base station and generating a local frequency signal (f_L) which is substantially synchronized with the input signal S_I, the auxiliary method being capable of shifting the frequency of the local frequency signal (f_L) to be close to that of a second received signal (S_{new}) from a second base station when the input signal (S_I) is changed from the first received signal (S_H) to the second received signal (S_{new}), the method comprising:

(a) storing a plurality of AFC parameter sets in a memory unit, each AFC parameter set being corresponding to a base station within the wireless cellular system;

(b) when the input signal (S_I) is changed from the first received signal (S_H) to the second received signal (S_{new}), fetching the AFC parameter set, which corresponds to the second base station, from the memory unit and applying the fetched AFC parameter set, which corresponds to the second base station, to the automatic frequency controller to shift the frequency of the local frequency signal (f_L).

17. The automatic frequency control method of claim 16, wherein the method for generating the local frequency signal (f_L) comprises:

comparing the input signal (S_I) with the local frequency signal (f_L), outputting a frequency error (f_E) between the input signal (S_I) and the local frequency signal (f_L);

receiving the frequency error (f_E) and generating a frequency control signal (V_t) according to the frequency error (f_E); and

generating the local frequency signal (f_L) according to the frequency control signal (V_t).

18. The automatic frequency control method of claim 17, wherein the the AFC parameter set are extracted from the automatic frequency controller and stored into the memory unit.

19. The automatic frequency control method of claim 18, wherein the AFC parameter set extracted by the control module or stored in the memory unit comprises a first AFC parameter which represents a value of the frequency control signal.

20. The automatic frequency control method of claim 18, wherein the AFC parameter set further comprises a second AFC parameter which represents the time at which the AFC parameter set been extracted.